Institute and Faculty of Actuaries

IFoA Life Conference

Bonds, bricks and balance:

Linking macroeconomic turbulence, UK productive finance and capital resilience

Keith Church Christophor Ward Dharmesh Roopun

Government Actuary's Department

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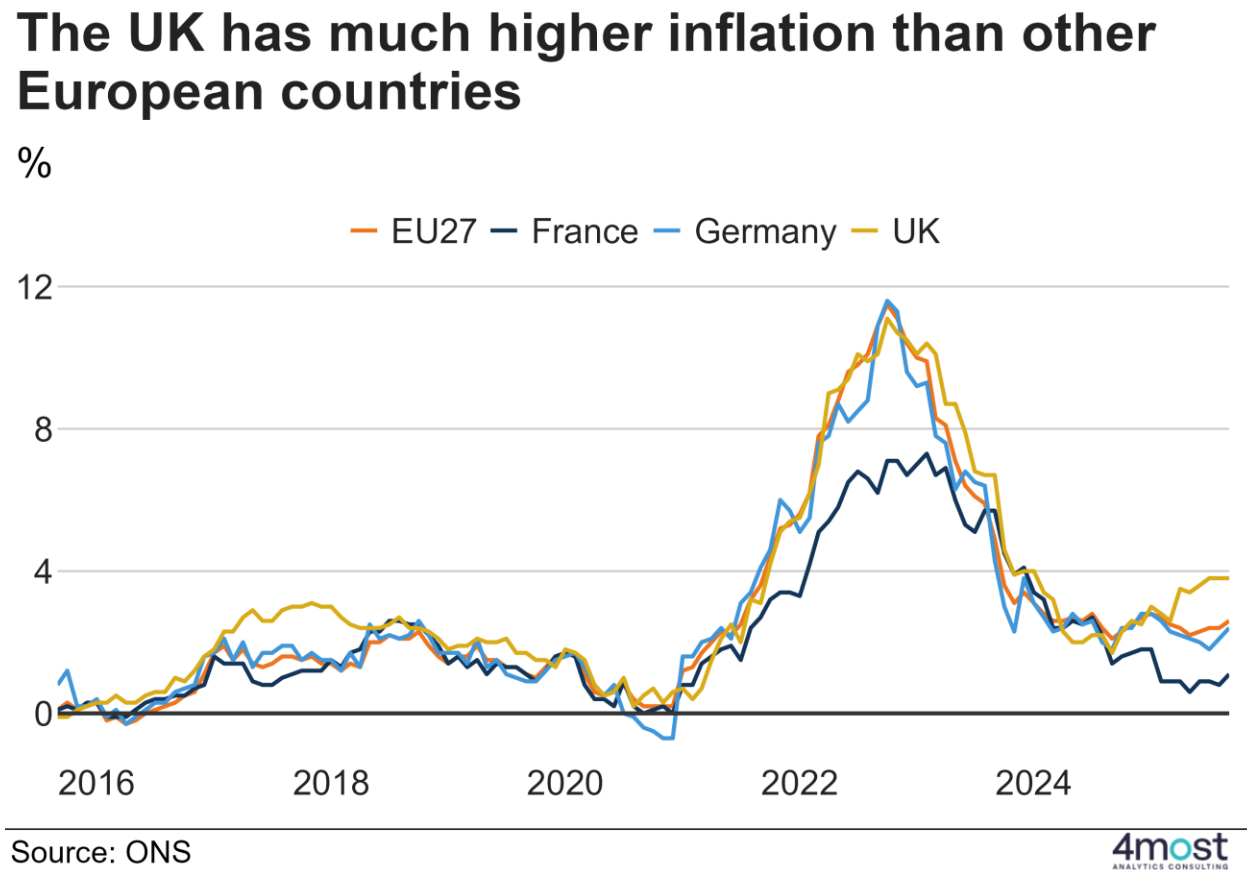
Overview

The UK's economic problems have few easy solutions

- High government borrowing costs have made the government's fiscal balancing act much harder
- The UK is being buffeted by headwinds, created both by geopolitical turmoil and structural problems at home
- These challenges are unlikely to ease quickly
- But investment is the best way out

Why have borrowing costs soared?

- The UK's inflation rate is higher than that elsewhere. Largely because of rising utility bills and an increase in costs on businesses.
- Inflation expectations in the longer term are reasonably well anchored. There is a danger that increased government spending runs up against supply side constraints. But inflation is probably not the biggest challenge.
- But investors also want more reward for lending to governments over long periods. A marked change from the past.



Is the era of low long-term interest rates over?

What is the equilibrium real rate?

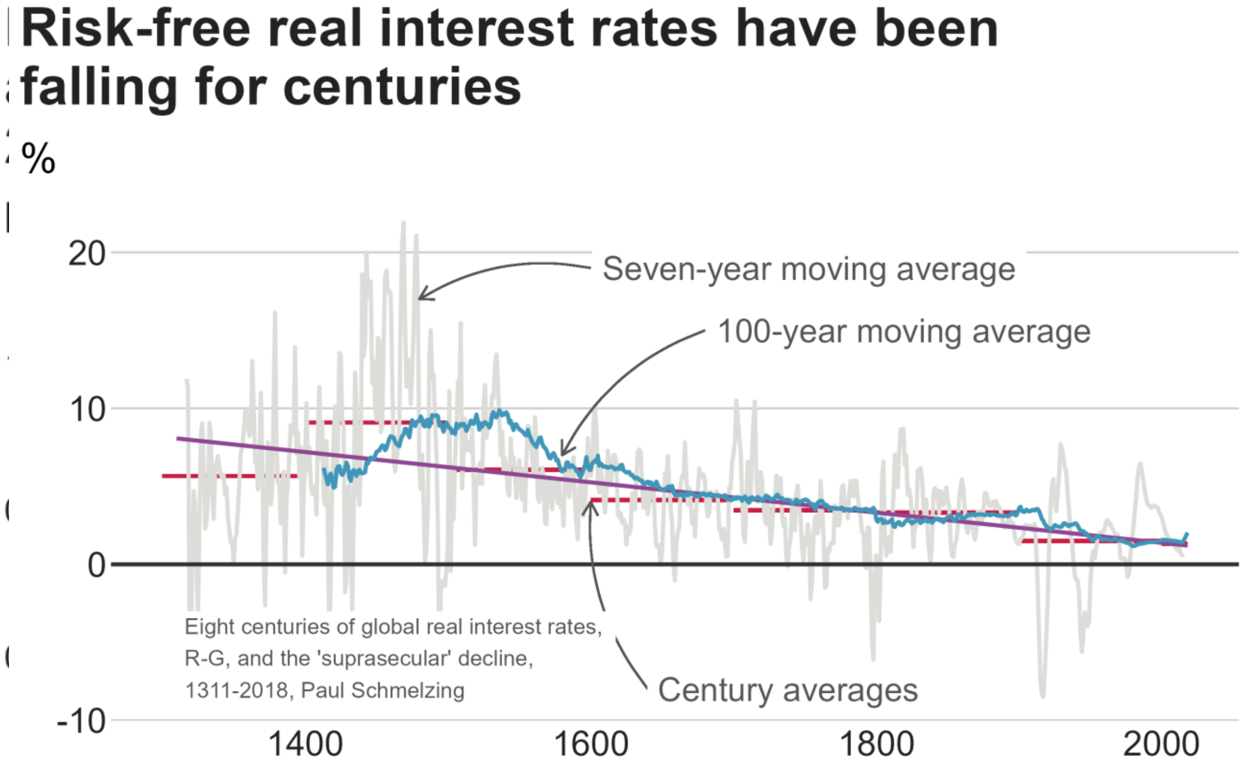
- R-Star reflects the balance between demand for funds for investment projects and the savings available to finance this. Given capital markets are global, so are the forces that determine it.

Focussing on 1985-2015:

- Increases in life expectancy has brought more saving. This trend has some way to run but an older population will eventually run down their assets in retirement.

- Emerging markets preferred to save after the Asian crisis. Petro dollars have been recycled into US Treasuries because of a lack of domestic investment opportunities. The growing middle-class in these countries also wanted safe assets.

- Weak productivity growth accounts for around half the fall in R-Star. Firms' demand for capital reduced because the marginal return was low. Investment goods are also cheaper. Will AI change all this?

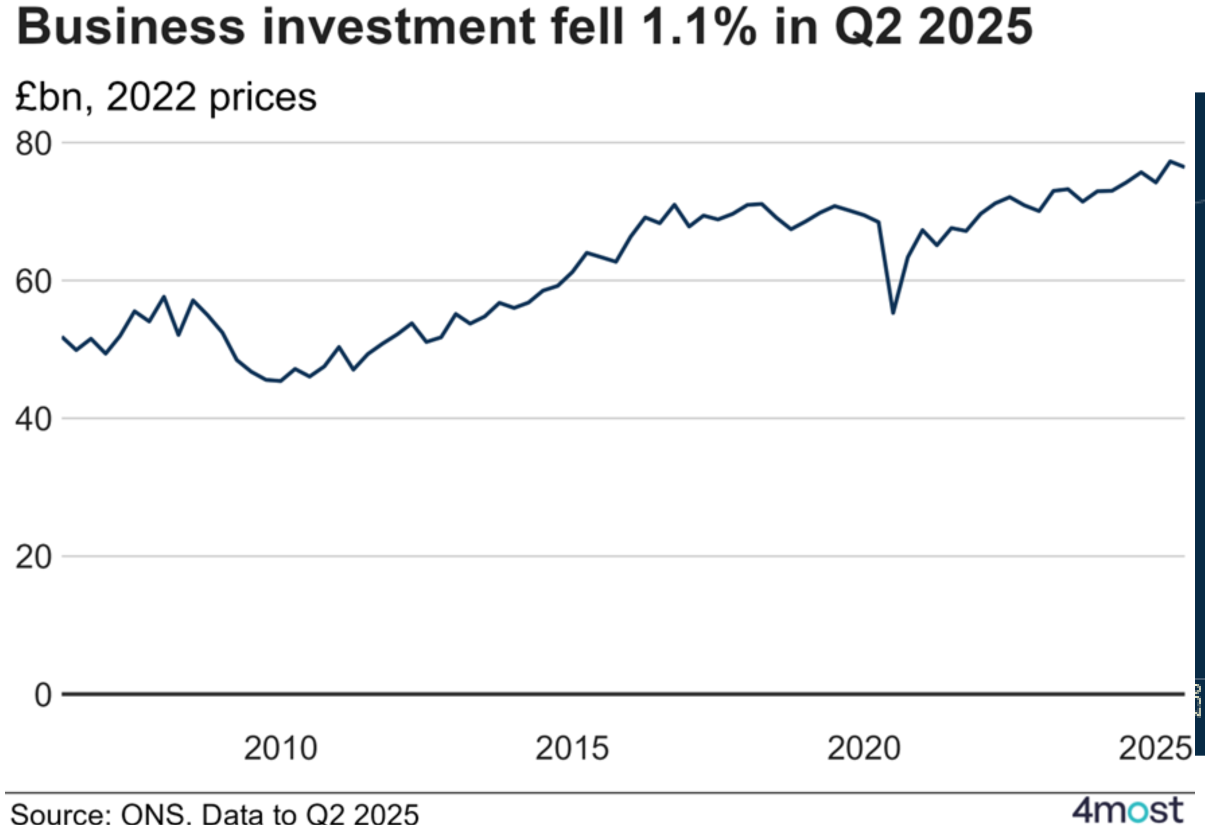


Source: Bank of England Staff Working Paper No. 845

Despite low interest rates, the UK failed to invest

- There is a ‘chicken and egg’ conundrum behind the UK’s weak productivity performance.
- We don’t invest enough. That lack of investment means that UK workers typically have less capital to work with than those else. Productivity is weak.
- More productive capacity is needed. It would broaden the tax base in the long run and mean the economy could grow faster without overheating.

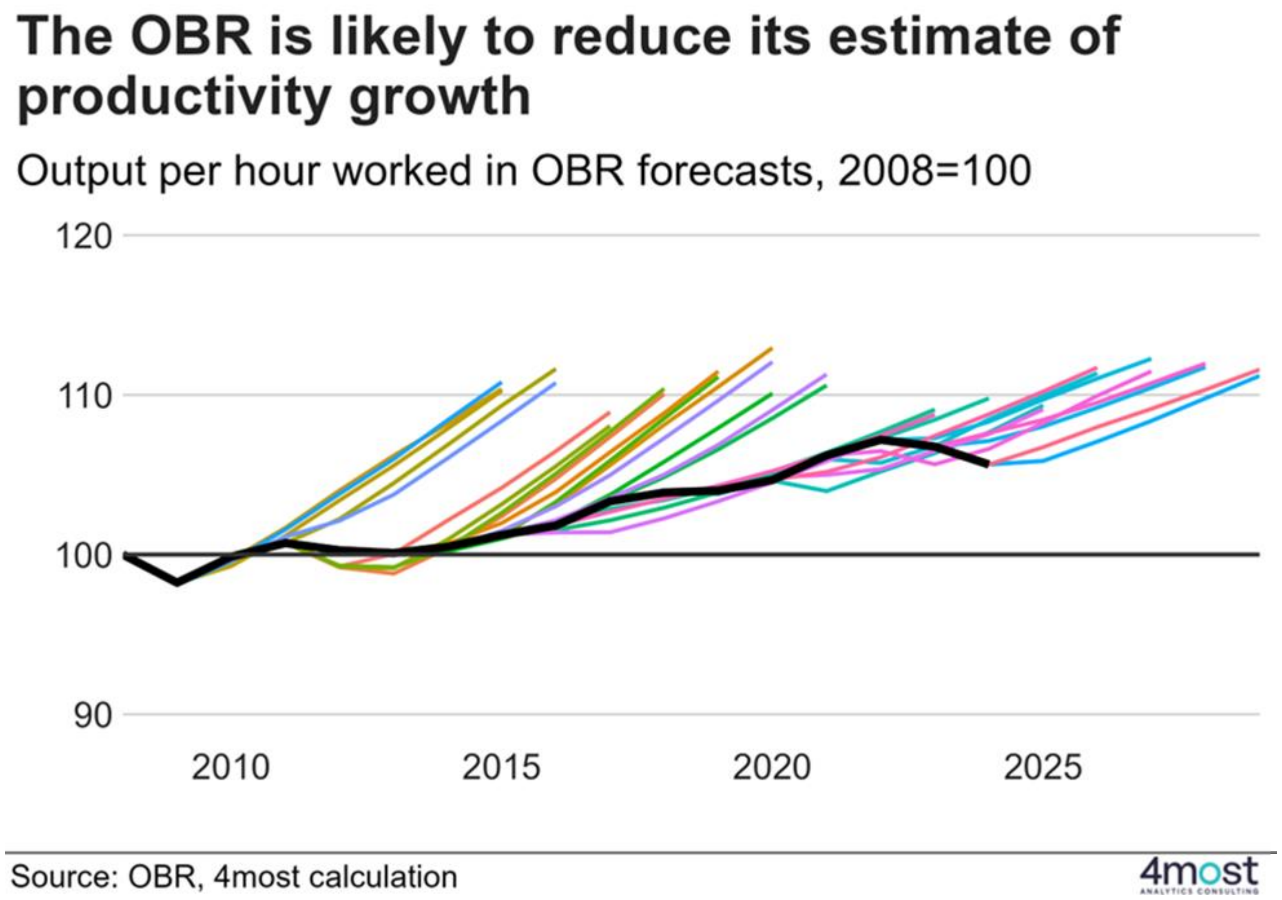
Total harmonised net capital stock per hour worked and labour



University of Cambridge. The Productivity Institute Productivity Insights Paper No.055

The key challenges

- If the OBR revises down its view of the future size of the economy, borrowing requirements will rise. Higher taxes will likely follow.
- There may be less money to invest. And no shortage of governments that need those funds to support their borrowing requirements.
- The UK, like the US, is reliant on the 'kindness of strangers' because of its large twin deficits.

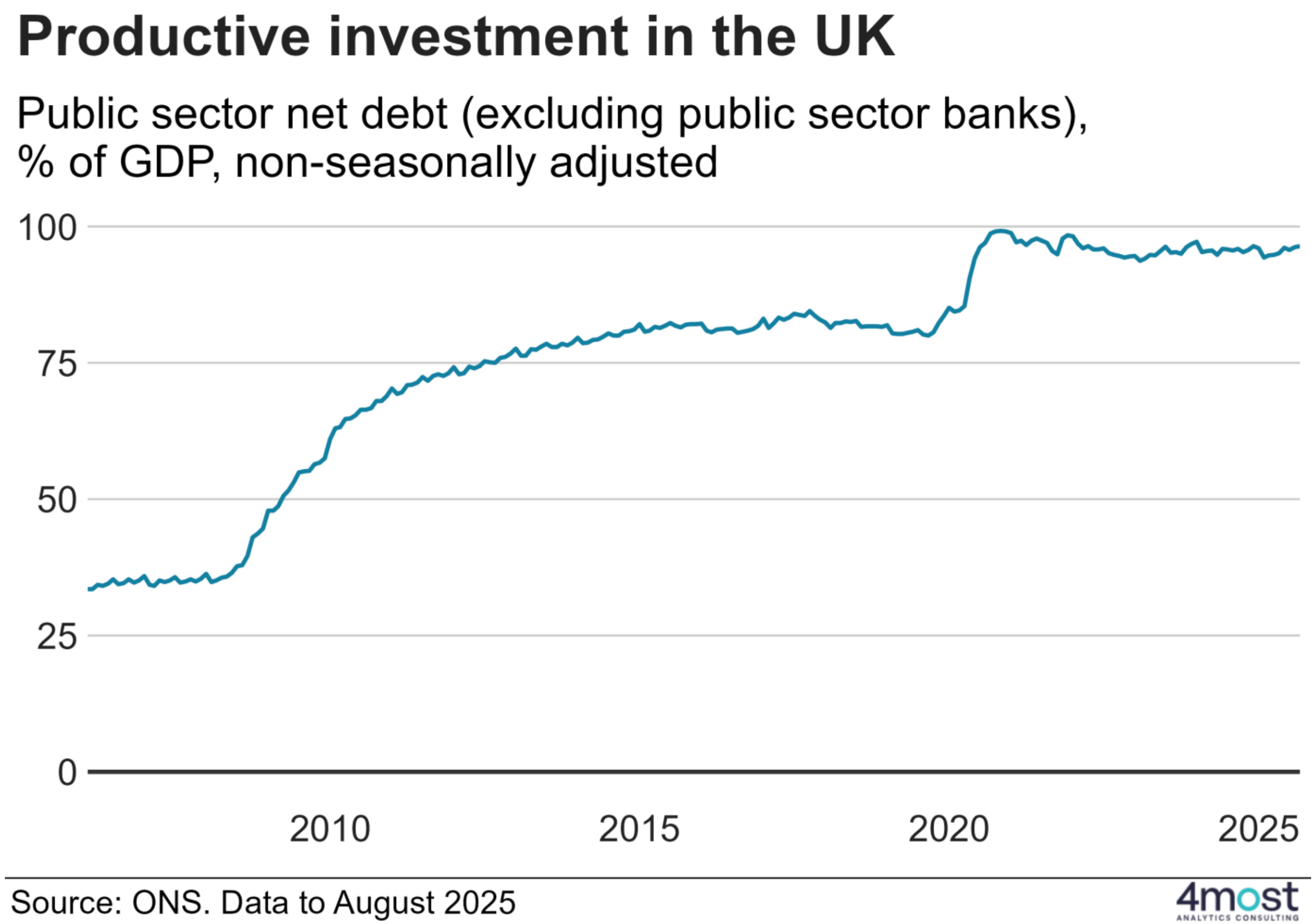


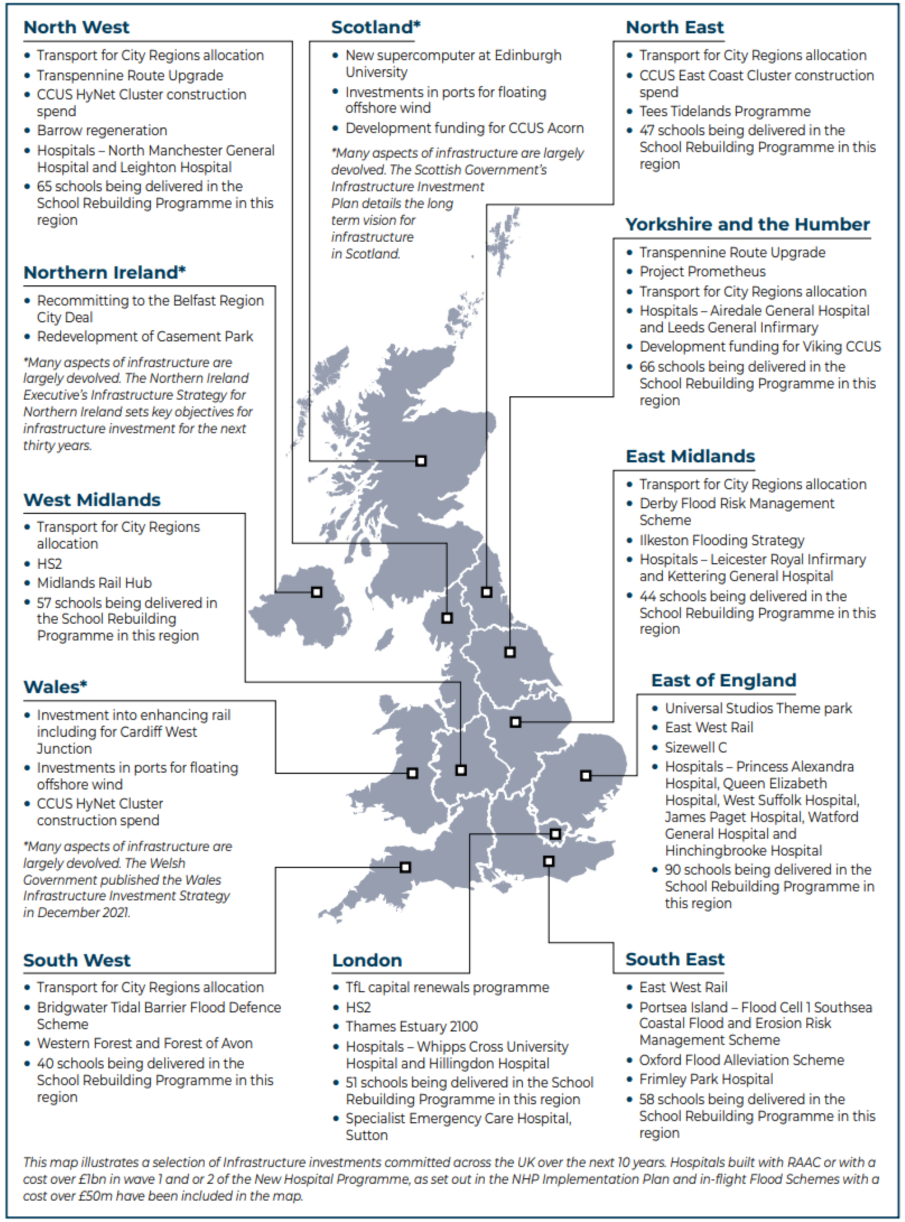
Key thoughts

The UK will need to prove it is investable

- The UK needs to break the cycle of low productivity, weak investment and the resultant paltry growth.
- That is more challenging than it was a decade ago when borrowing costs were cheap. Governments, including the UK, are in a world where markets are less friendly in terms of lending over long periods
- Another irony is that if the era of cheap money is over for governments, it may be because AI and a shortage of workers is raising the return on private investment. Not that this is a bad thing.
- The UK will need to prove it is investable. Strong and stable institutions are part of this. More certainty around the long-term growth strategy would help but the political cycle is another challenge.
- But above all, the deal on offer to investors must be right.

Productive investment in the UK





The opportunity

- The government is now taking action across three areas:
- Supporting the supply of private capital
- Matching these varied sources of capital to investment opportunities
- Ensuring a supply of projects to create demand

Source: [CP 1344 – UK Infrastructure: A 10 Year Strategy]

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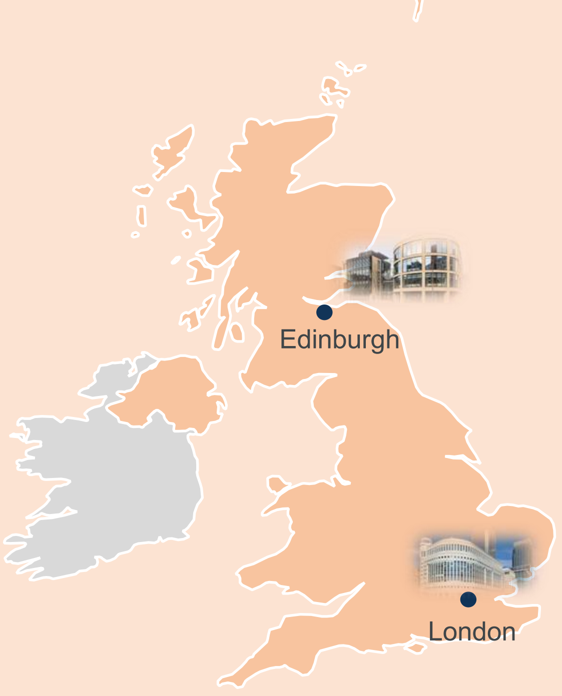
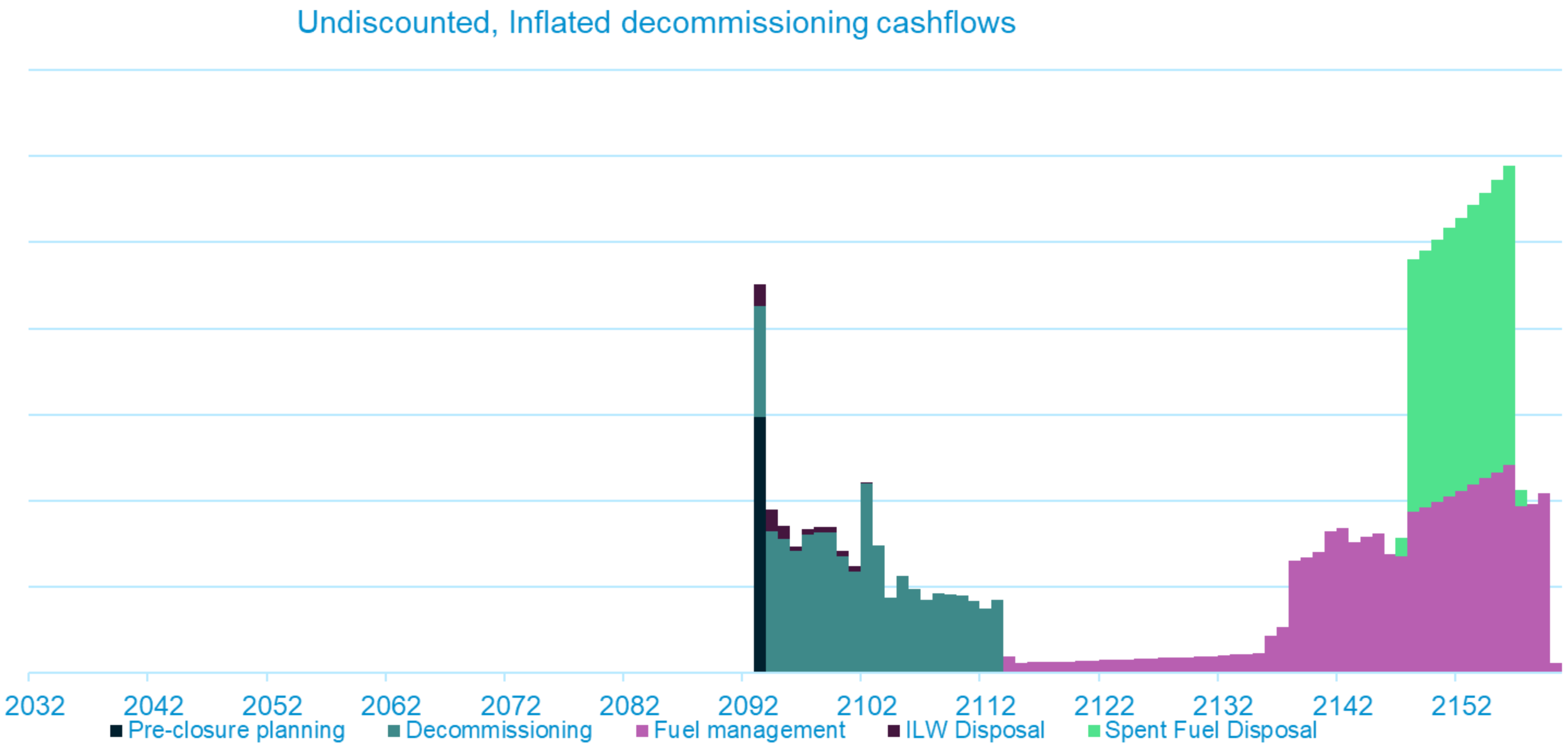


GAD’s involvement with nuclear

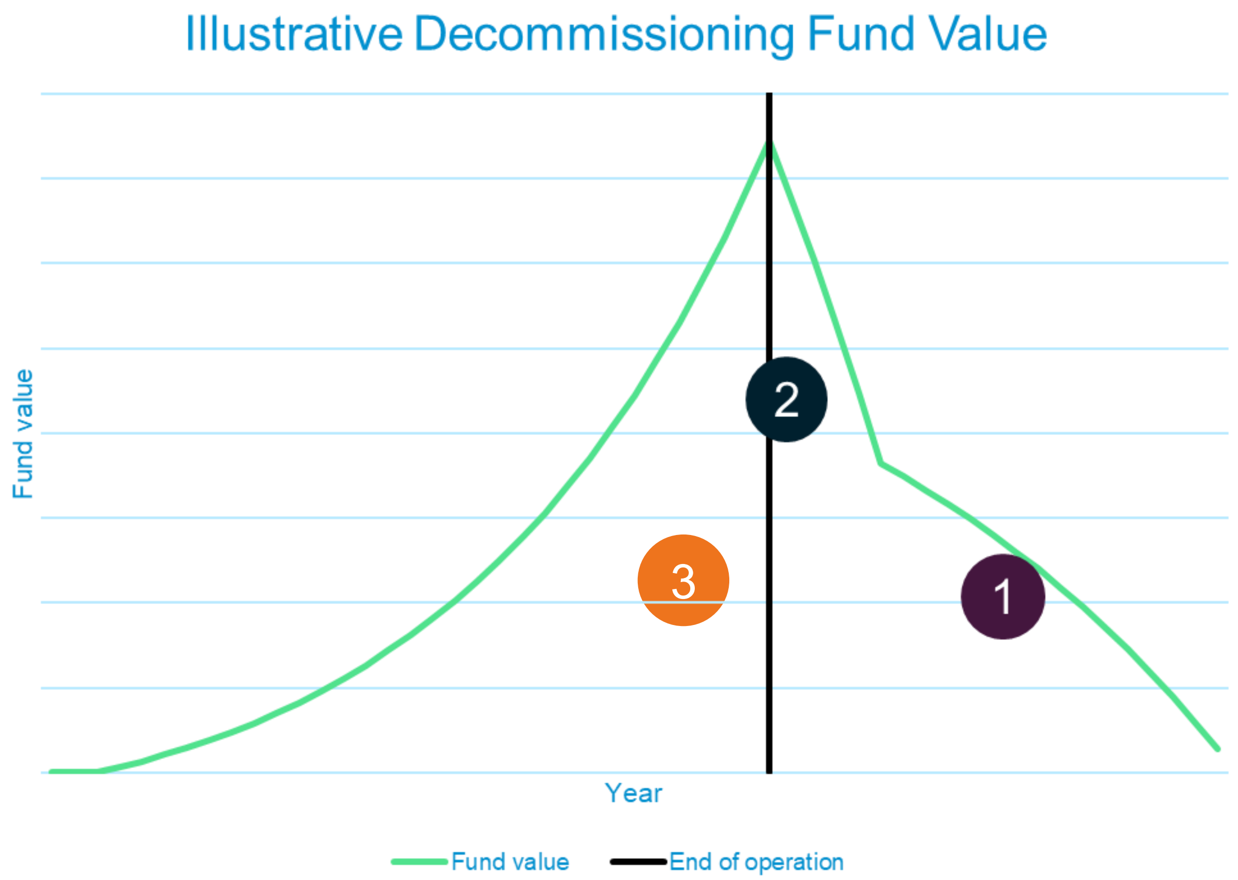
- Advice to government on nuclear power
  - Pensions
  - Finance
    - Finance models for new nuclear
    - Funding nuclear liabilities (legacy and future)
  - Insurance

Nuclear power plant worker. Credit: Shutterstock

What will it cost to decommission Sizewell C?

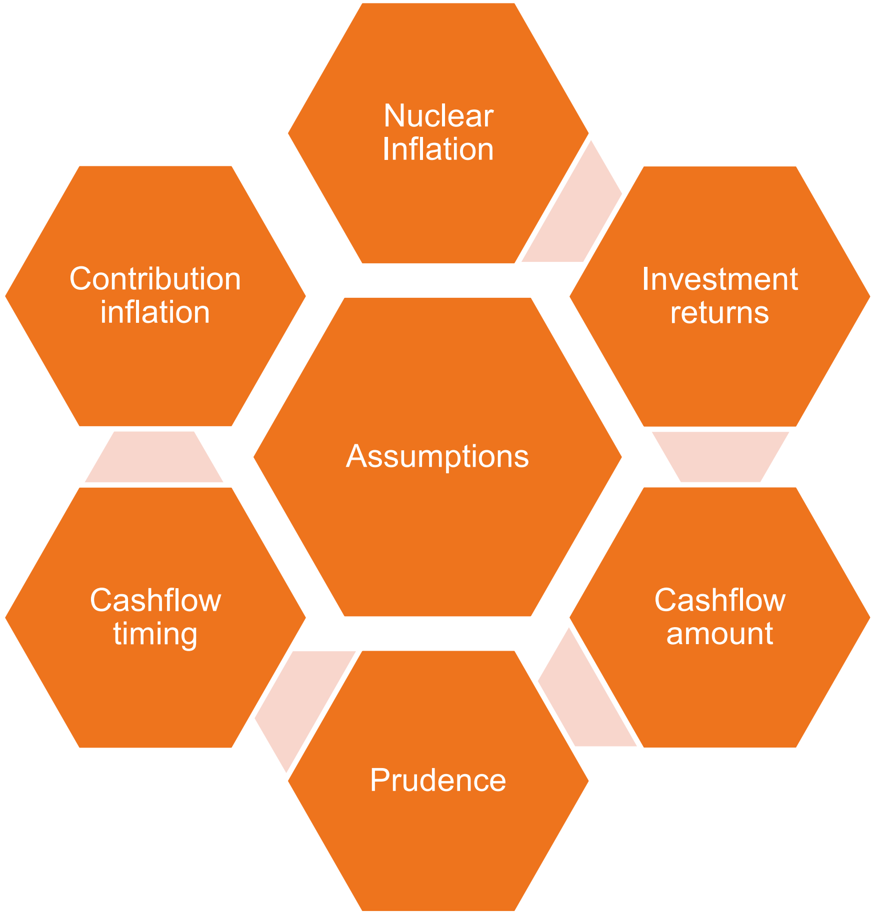


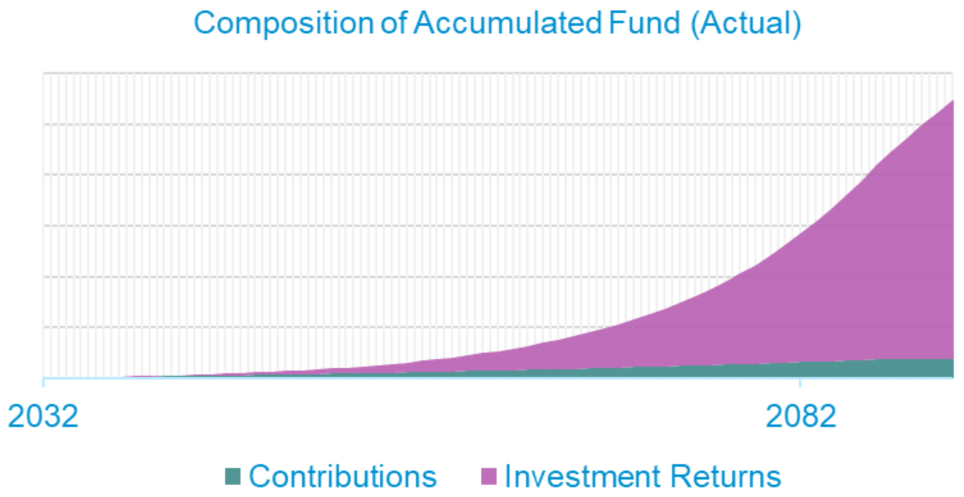
Turning costs into a funding plan

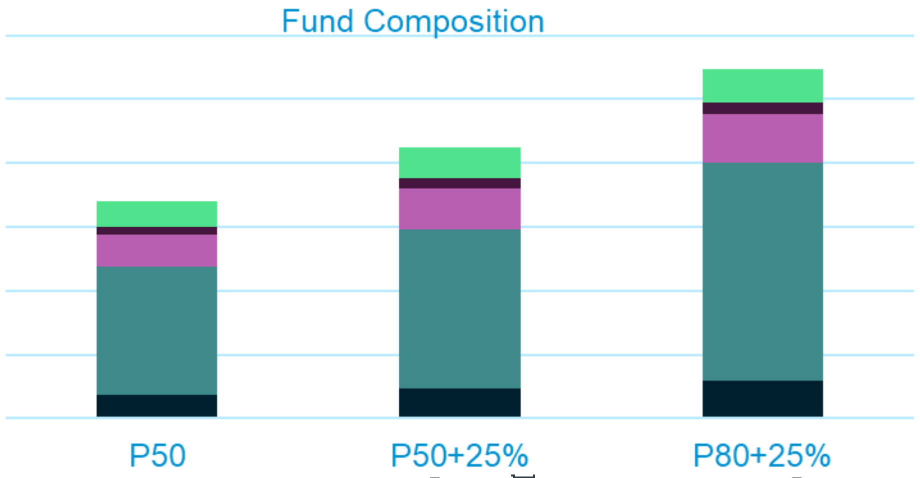


- Start with projected decommissioning cashflows. Apply an assumed inflation rate.
- Determine a funding target by discounting cashflows to end of operations.
- Informed by the funding target, look at how the fund will grow from contributions and investment returns.

Actuarial analysis supporting policy





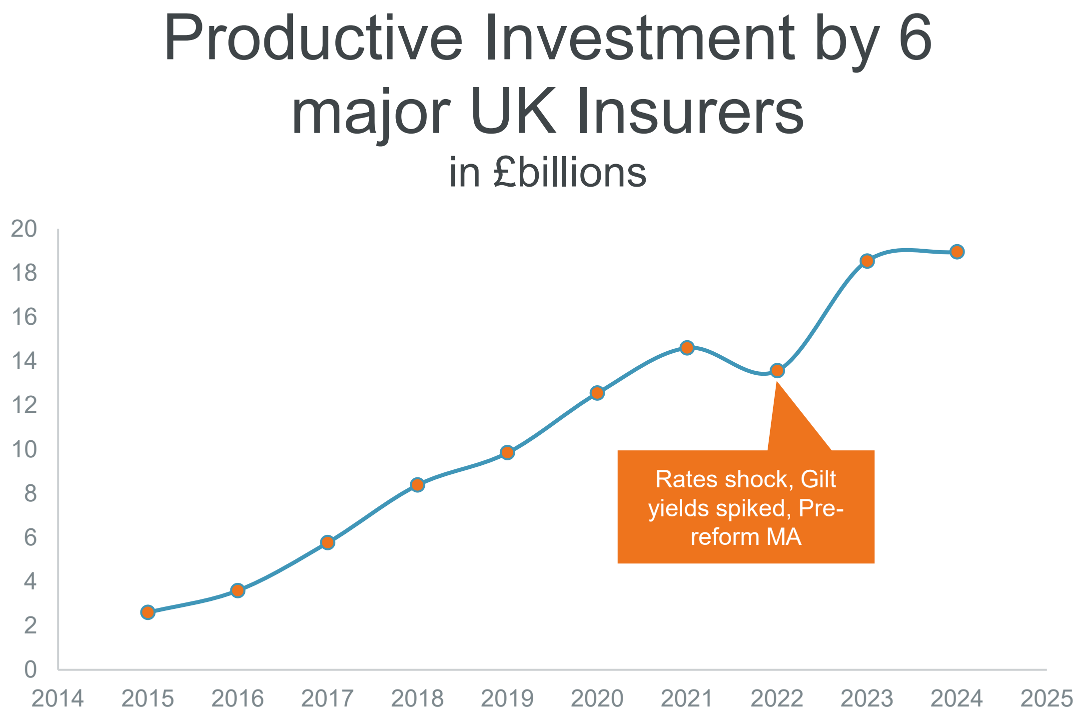


Observations from our analysis

- The long time frame for construction, generation and decommissioning will span changes to the economy and society that are inconceivable today, but maybe material for funding.
- Output from traditional analytical techniques, such as those used by pension schemes and insurers, will have a relatively low degree of confidence in this application, especially in the early years of funding, so should be used to supplement other funding and risk control measures.
- Decommissioning funding governance should be guided by clear objectives, involve a wide range of relevant experts, be supported by analytical and non-analytical tools, and build in flexibility for a changing world.

Who is underwriting decommissioning funding risk?

UK policy to Insurance



Source: Various Annual Reports & Accounts 2015-2024
Excludes Social Housing

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Infrastructure

Qualifying infrastructure investments" are defined in the Solvency II Delegated Regulation (Article 164a)

Infrastructure Project vs Infrastructure Corporate

Matching Adjustment portfolios: PS17/25 (updated 2025)

Asset Allocation

2024 MA reform widened eligibility to highly predictable cashflows (beyond purely fixed)

Standard Formula capital & concentrations | Solvency UK Rulebook

Returns & Volatility

Global Infra : Sharpe Ratio of 3.0 based on 2013-2023 data (Annual return 11%, Annual Volatility of 3% (Global Equities : 0.5, Bonds: -0.5)

Correlation -25% with fixed Income and 20% with Global Equities

Credit risk charge for subordinated qualifying infrastructure debt (with a duration of 14+ years) is significantly lower at 7.9 per cent, compared to 12.7 per cent for unrated corporate debt

Questions

Comments

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keith.church@4-most.co.uk

dharmesh.roopun@4-most.co.uk

Christophor.Ward@gad.gov.uk